

The opinion generally adopted by chemists, that acids and alkalies do not act upon resinous bodies, appears from this investigation to be altogether erroneous; since the chief ingredient of lac which we have seen is soluble in those menstrua, is now determined to be of a resinous nature.

Some hints are lastly given concerning the further uses that may be made of these preparations in various manufactures, especially in dyeing, and the preparation of colours: nor is it thought unlikely that medicine may derive some advantages from the application of the extensive series of acid and alkaline solutions of resinous substances, which till now were thought to be unattainable.

*On the Integration of certain differential Expressions, with which Problems in physical Astronomy are connected, &c. By Robert Woodhouse, A.M. F.R.S. Fellow of Caius College. Read April 12, 1804. [Phil. Trans. 1804, p. 219.]*

In the preamble to this paper the author states, that if the introduction of the new calculi, as they have been called, has extended the bound of science, it has also greatly increased its difficulties by their number and magnitude: and that whilst the differential forms, which can be completely integrated, occur only in few problems, the investigations in physical astronomy give rise to differential expressions which call forth all the resources of the analytic art, even for their approximate integration.

The main object of this paper is to give a method of computing the integrals of certain expressions which lead to the determination of the logarithms of numbers, and the lengths of circular arcs. In treating of one of these expressions, known by the name of Fagnani's Theorem, the author traces out the correspondence between the methods of computation, and the proportion of geometrical figures; the analytical method, by which the integral expressing the arc of a circle is computed, affording, when duly translated, the theorem for the tangent of the sum of the two arcs expressed in terms of the tangents of the arcs.

It is in vain to attempt, without the use of symbols, to convey any adequate, nay, even a faint idea of the various series, converging and diverging according to the value of one of the coefficients of the original expression, which lead to the conclusions that illustrate this mode of investigation. Suffice it to say, that among other uses, the method may be applied to expand the formula that occurs in estimating the perturbation of planets: and in this instance the author points out the series which would be most commodious, and which would converge most rapidly if the radii of the orbits of the two planets, whose perturbations are sought, were nearly equal.